

CABELEC® CC6135 CONDUCTIVE CONCENTRATE

Product highlights

CABELEC CC6135 conductive concentrate is an electrically conductive concentrate made from conductive carbon black dispersed in a modified styrenic resin. Its electrical and mechanical properties are not dependent on atmospheric conditions. However, these properties can vary depending on the type and level of dilution resin used and the processing conditions.



Unlike standard conductive compounds, which have very limited dilution potential, CABELEC CC6135 conductive concentrate can be diluted with a high quantity of natural resin (see graph below). This allows users of CABELEC CC6135 conductive concentrate to benefit from the versatility of this concentrate and from enhanced physical properties due to higher levels of dilution resin.

Key applications

CABELEC CC6135 conductive concentrate (after dilution) can reduce the hazards of electrostatic discharge in applications such as packaging and handling of electronic components, explosive powders, and pigments.

Processing

Pre-drying

CABELEC CC6135 conductive concentrate absorbs moisture under normal storage conditions, and this can result in surface blemishes. It is therefore advisable to dry the concentrate prior to use. Usually, 2-4 hours in a hopper dryer at 80°C is sufficient time to reduce the moisture content to an acceptable level. Dilute CABELEC CC6135 conductive concentrate uniformly by tumble or high-speed blending with extrusion-grade high impact polystyrene before use. The blending ratio may vary, depending on the customer's requirements (a 50/50 blend is generally suitable). Pre-drying of the diluent high impact polystyrene may also be needed, in case it is wet or has been stored under high relative humidity conditions.

Extrusion

Diluted CABELEC CC6135 conductive concentrate can be processed on conventional extrusion equipment. The blend should be processed under low shear conditions. To promote good electrical and mechanical properties of the material it is suggested that high shear mixing elements be avoided. As a general guide, extrusion temperatures of 170-210°C have been used successfully on extrusion lines. Temperatures more than 230°C should be avoided. Actual extrusion temperatures should be adapted according to the nature of the equipment and the manufactured article to give optimum extrusion quality.

The information given in this section should be used for guidance only as different equipment could require different operating conditions to achieve the desired results.

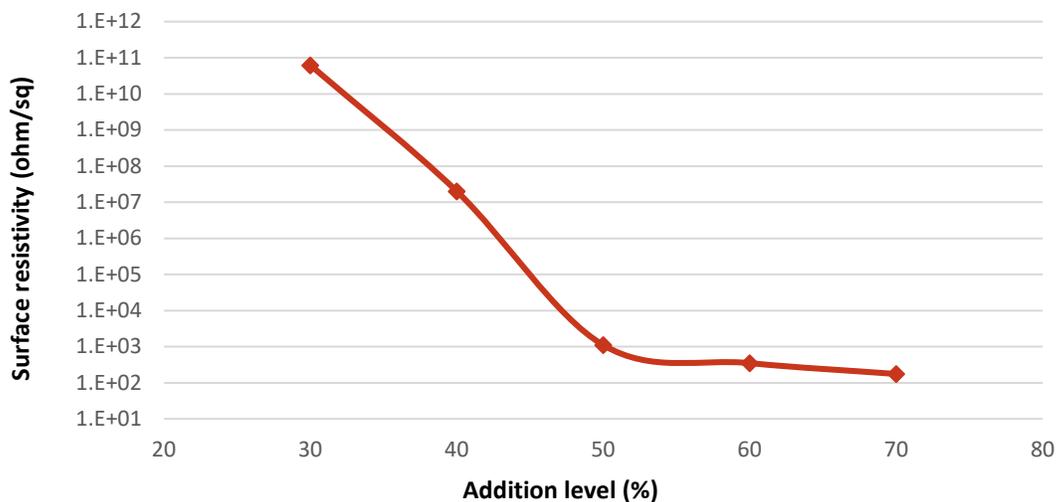
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TYPICAL PROPERTIES			
PROPERTY	TYPICAL VALUE	UNITS	TEST METHOD
Density @23°C	1200	kg/m ³	ISO 1183
MFI (21.6Kg/230°C)	4	g/10 min	ISO 1133

The data in the table above are typical test values intended as guidance only and are not product specifications. Product specifications are available upon request from your Cabot representative.

When diluted with a commercially available extrusion grade high impact polystyrene (HIPS):

Surface resistivity measured on 400µm thick extruded tape at various dilution rates for CABELEC CC6135 conductive concentrate (according to internal Cabot Test Method CTM E042):



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Mechanical properties measured on 400µm thick extruded tape made from CABELEC CC6135 conductive concentrate used at 50% dilution rate:

TYPICAL PROPERTIES			
PROPERTY	TYPICAL VALUE	UNITS	TEST METHOD
Tensile strength at break (machine direction)	24	MPa	ISO 527
Tensile elongation at break (machine direction) (%)	70	%	ISO 527
Notched izod impact @23°C (injection molded from pieces of extruded tape)	11	kJ/m	ISO 180A
Elmendorf tear resistance (machine direction)	0.66	cN/µm	ASTM D1922
Elmendorf tear resistance (transverse direction)	0.87	cN/µm	ASTM D1922

Note: Results obtained can depend on the grade of diluent resin used and may vary.

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Product form and logistics

- ◆ Product form: pellets
- ◆ Regional availability: global
- ◆ Packaging options: 25 kg bags

For information on product-specific storage conditions, please refer to the applicable Safety Data Sheet (SDS) available from your Cabot representative or at cabotcorp.com.

The CABELEC name is a registered trademark of Cabot Corporation.

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